

Serial No. 09/870,521

Filed: June 1, 2001

Page 2

Amendments to the Claims:

Please amend claim 17 as indicated, and cancel claims 1, 2, 7, and 25:

1-2. (Canceled herein).

3. (Previously Presented) A probe which consists essentially of 17 to about 1000 consecutive nucleotides of the chicken class I genes in the B or Rfp-Y system wherein at least 17 consecutive nucleotides of said probe are 17 consecutive nucleotides of SEQ ID NO: 2.

4. (Original) A probe according to claim 3, which comprises about 100 to about 1,000 nucleotides.

5. (Original) The probe of SEQ ID NO: 1.

6. (Original) The probe of SEQ ID NO: 2.

7. (Canceled herein).

8. (Previously Presented) A fragment of the probe according to claim 6, which comprises 17 to 674 nucleotides.

9-12. (Canceled).

13. (Currently Amended) A method for determining the Mhc genotype of a chicken, comprising:

OK to
Enter
12/18/03

Serial No. 09/870,521

Filed: June 1, 2001

Page 3

- (a) providing a genomic DNA sample from at least one chicken;
- (b) digesting said genomic DNA sample with at least one restriction endonuclease to obtain restriction fragments;
- (c) resolving said restriction fragments;
- (d) optionally transferring said resolved restriction fragments to one or more hybridization membranes and optionally immobilizing said transferred restriction fragments on said hybridization membranes;
- (e) incubating said resolved restriction fragments with a first probe according to ~~claim 1~~ or claim 3 under conditions such that said first probe hybridizes with said resolved restriction fragments, wherein said first probe is labeled;
- (f) washing said resolved restriction fragments to remove unhybridized first probe;
- (g) creating an image of said labeled first probe hybridized to said resolved restriction fragments such that a restriction pattern is formed;
- (h) determining the *Mhc* genotype of said at least one chicken from said restriction pattern; and
- (i) optionally stripping said first probe and incubating said resolved restriction fragments with a second probe according to ~~claim 1~~ or claim 3 under conditions such that said second probe hybridizes with said resolved restriction fragments, wherein said second probe is labeled and repeating steps (f) - (h).

14. (Original) A method according to claim 13, wherein said resolved restriction fragments are incubated with one probe.

Serial No. 09/870,521

Filed: June 1, 2001

Page 4

15. (Original) A method according to claim 13, wherein said resolved restriction fragments are incubated with a first probe and a second probe.

16. (Original) A method according to claim 15, wherein one of said first probe and said second probe is specific for the *Rfp-Y* system and the other of said first probe and said second probe is specific for the *B* system.

17. (Currently Amended) A method according to claim 15, wherein one of said first probe and said second probe is SEQ ID NO: 1 and the other of said first probe and said second probe is SEQ ID NO: 2.

18. (Original) A method for selecting a chicken which is resistant to a preselected disease, comprising:

- (a) determining the *Mhc* genotype of at least one chicken according to the method of claim 13; and
- (b) correlating said *Mhc* genotype to said resistance to said preselected disease.

19-24. (Canceled).

25. (Canceled herein).

26. (Previously Presented) A probe which consists essentially of 17 to about 1000 consecutive nucleotides of the chicken *Rfp-Y* or *B* class I genes wherein at least 17 consecutive nucleotides of said probe are 17 consecutive nucleotides of SEQ ID NO: 2, and a non-hybridizing tail.